

**FORCE-BALANCED ROLLER-CONE BITS,
SYSTEMS, DRILLING METHODS, AND
DESIGN METHODS**

Inventor: Shilin Chen
Date Filed: January 27, 2004
Attorney's Docket: 074263.0209 (SC-98-025 C3-E)
Sheet 1 of 8

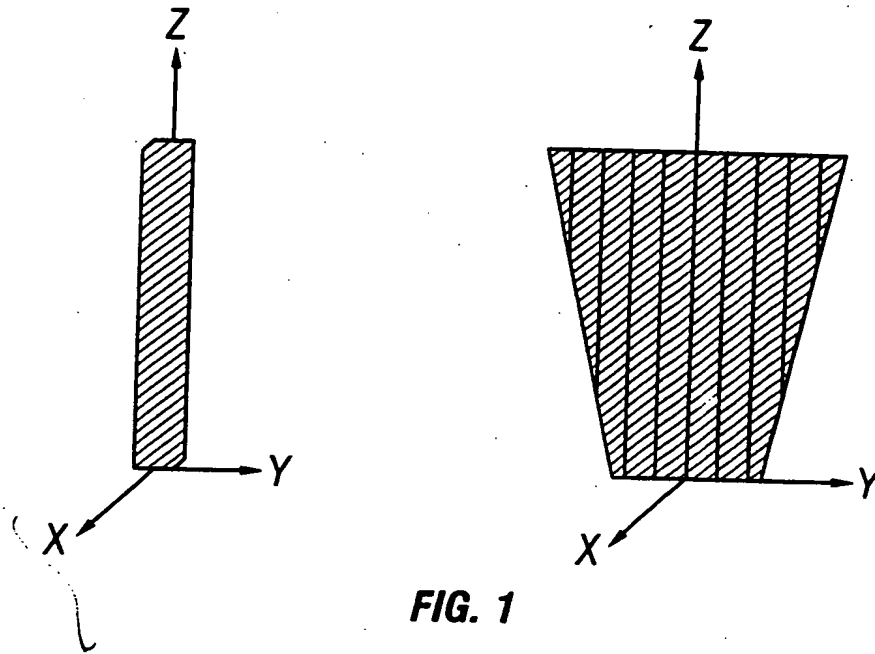


FIG. 1

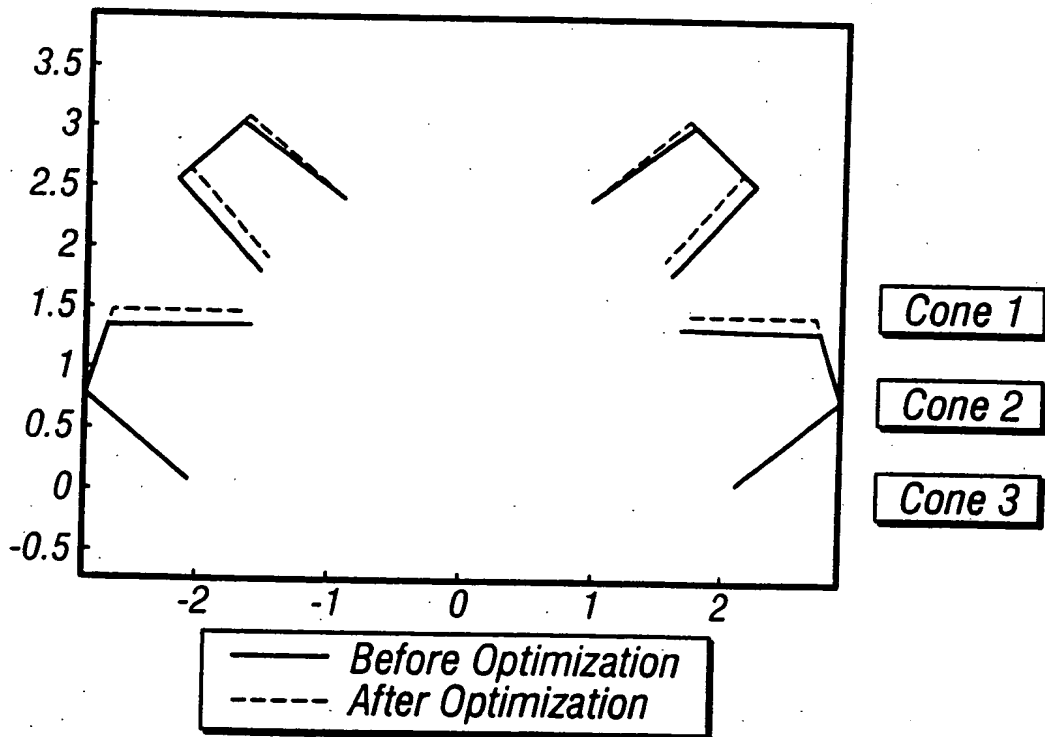


FIG. 7C

2/0

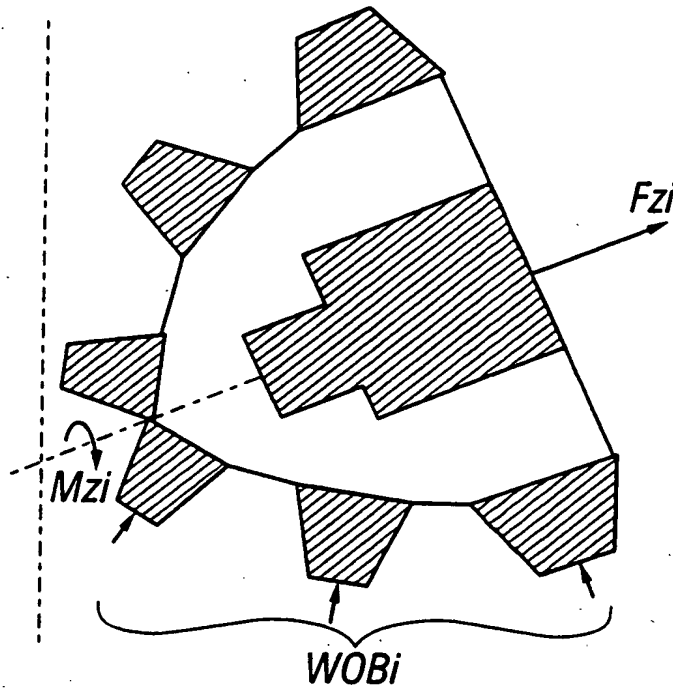


FIG. 2

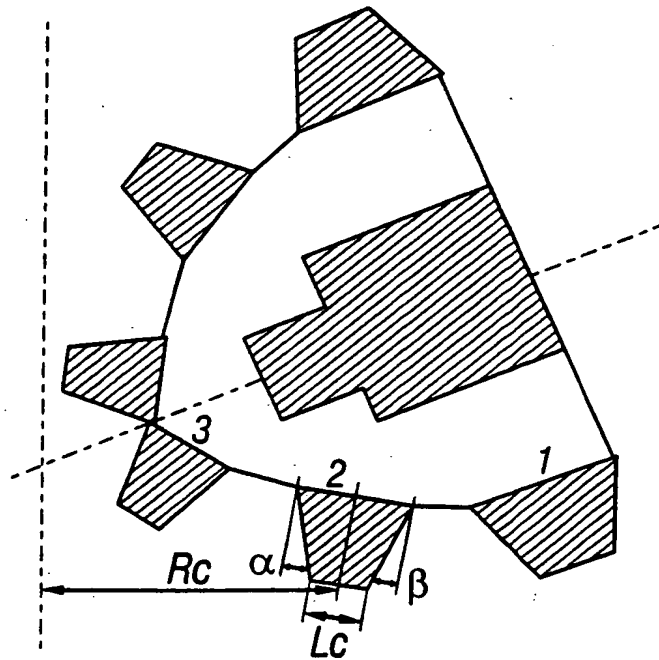


FIG. 3

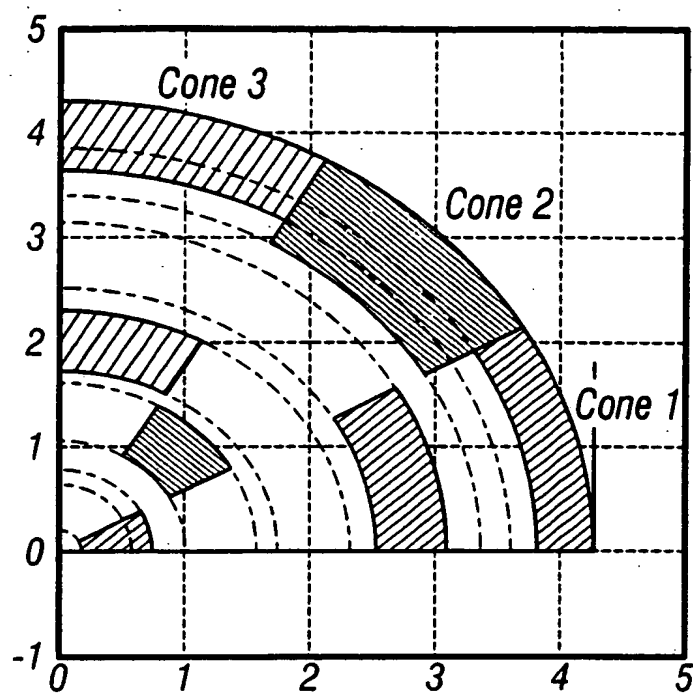


FIG. 4

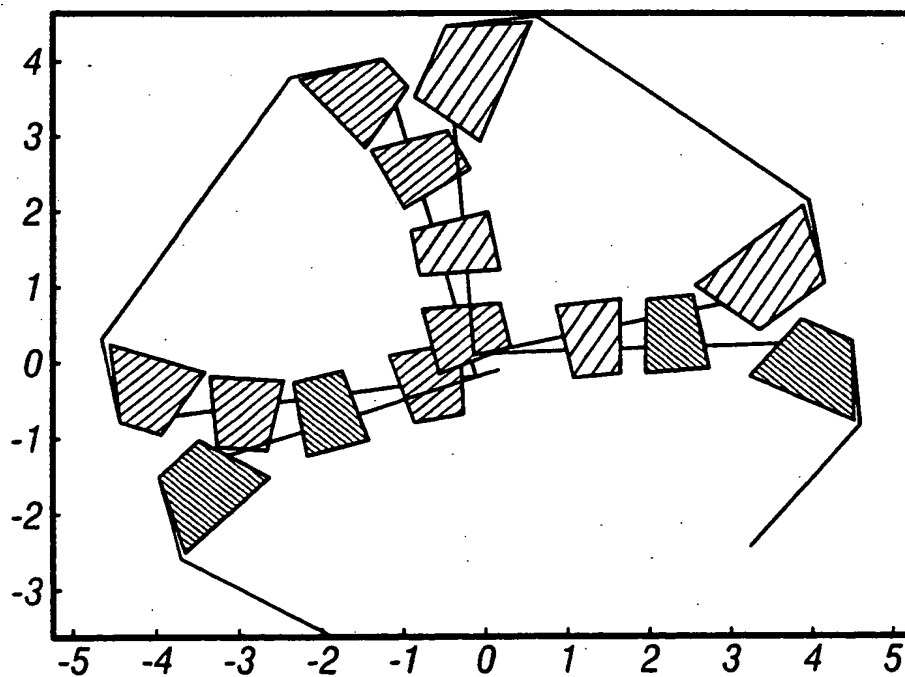


FIG. 5

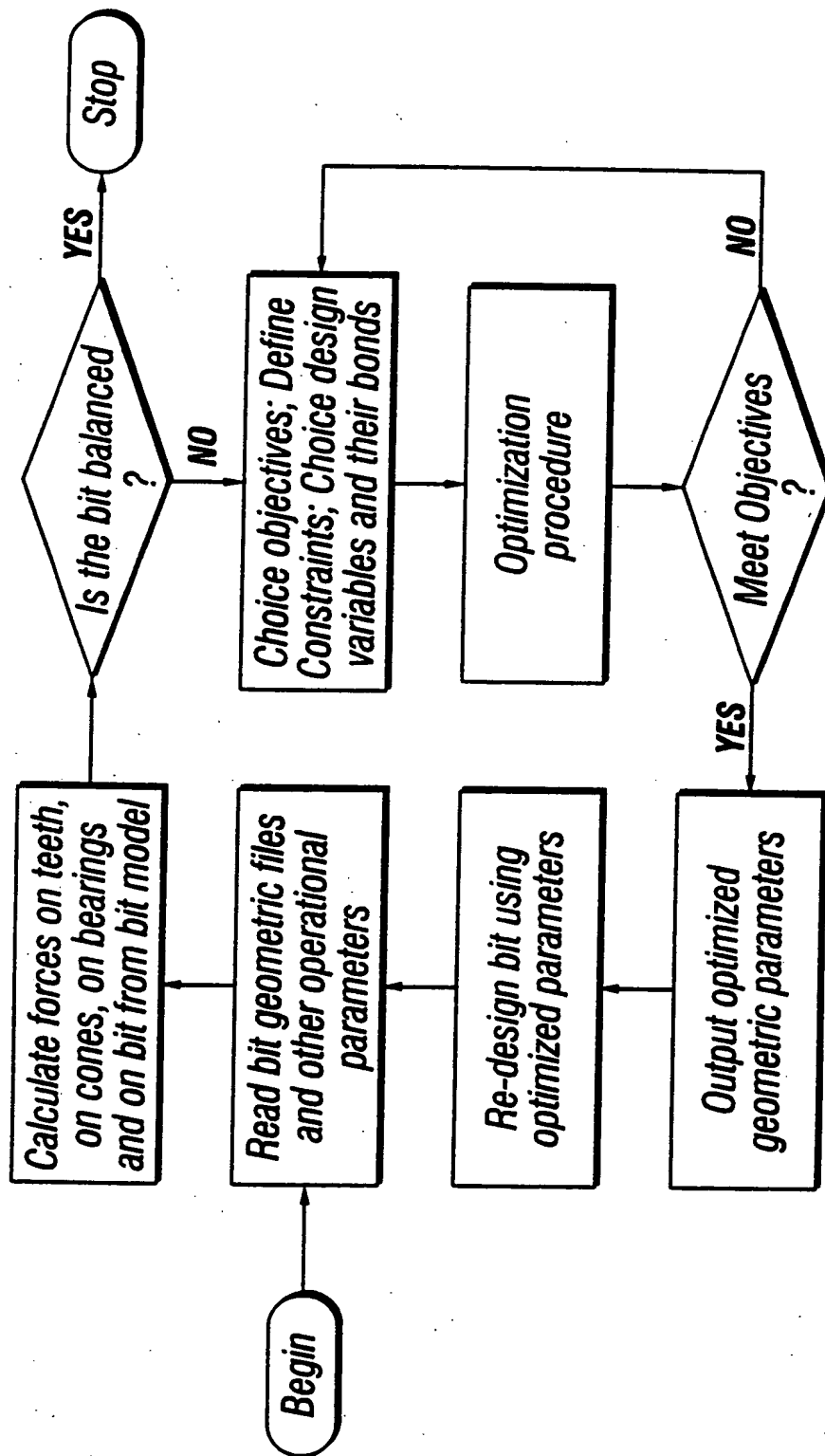


FIG. 6

σ/δ

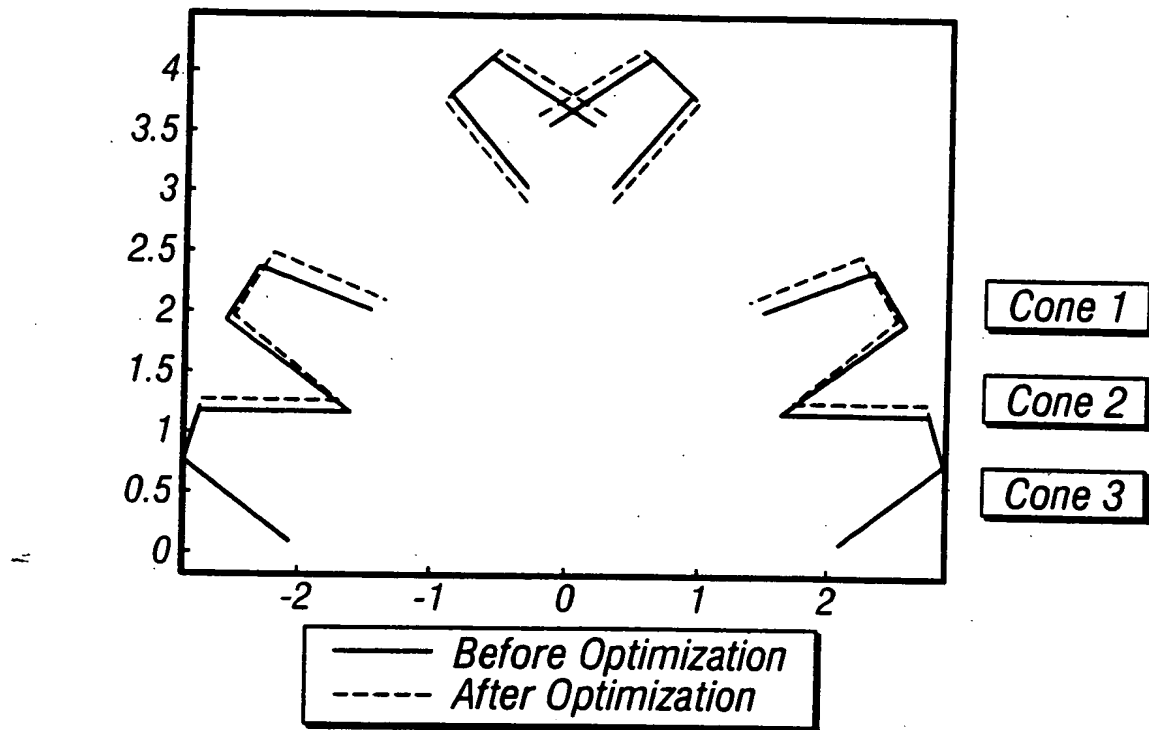


FIG. 7A

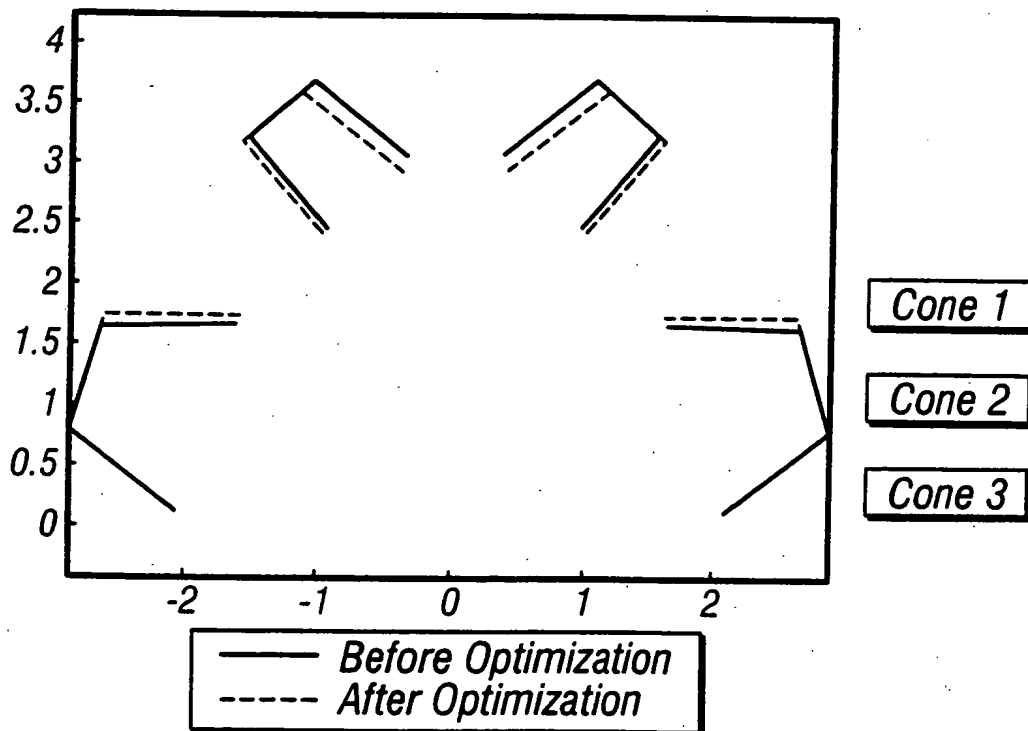


FIG. 7B

U.S.

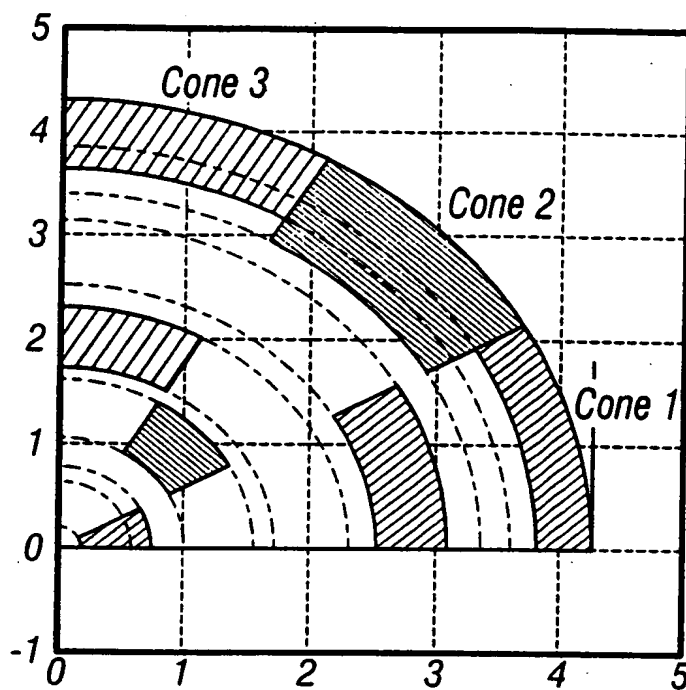


FIG. 8A

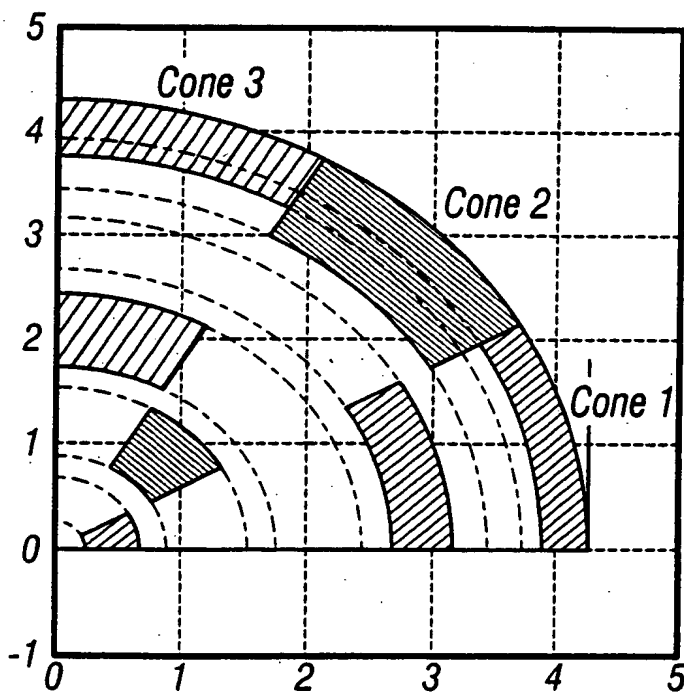


FIG. 8B

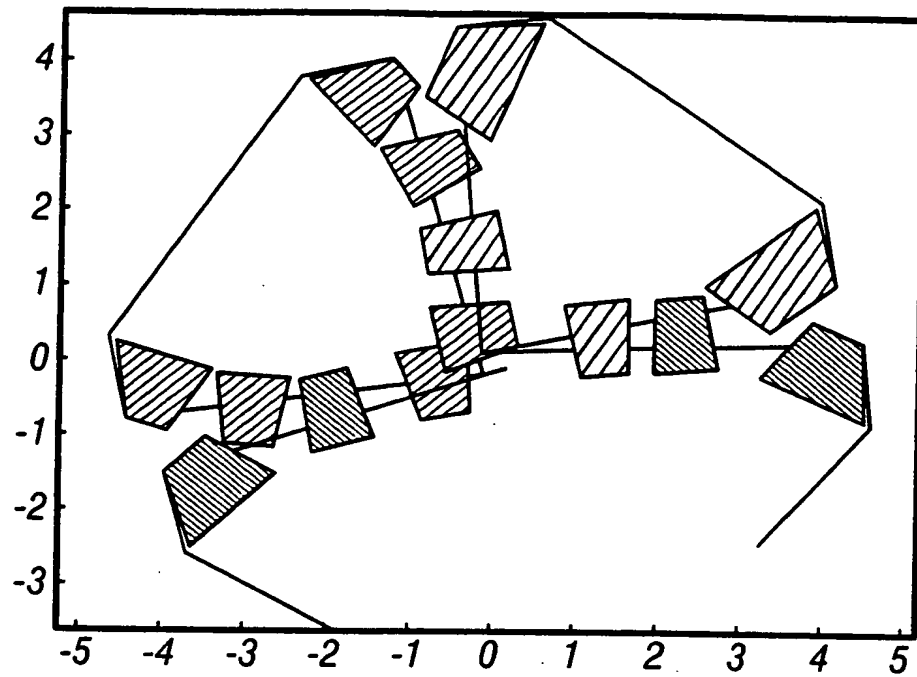


FIG. 9A

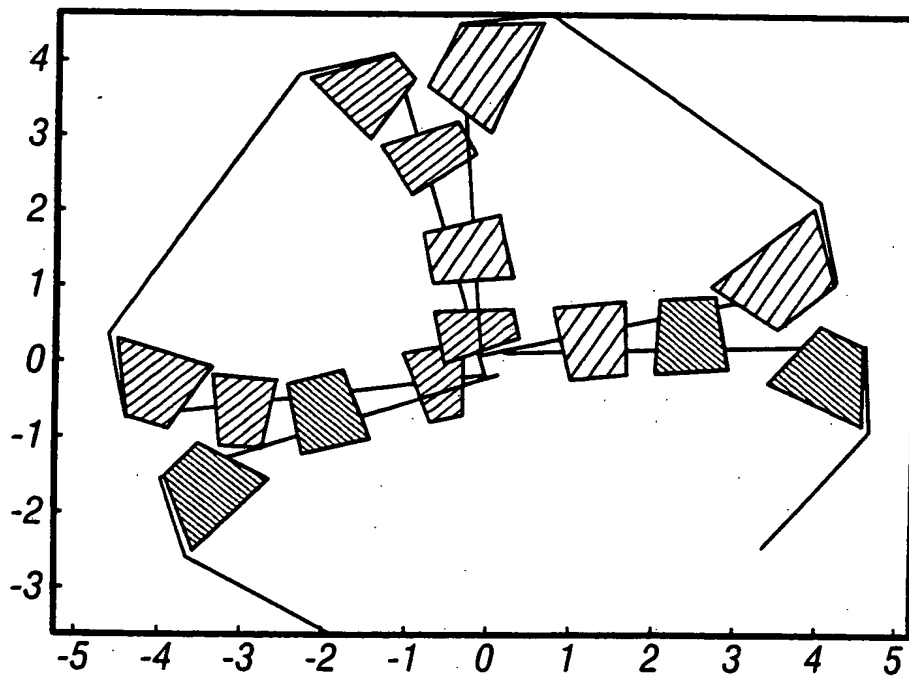


FIG. 9B

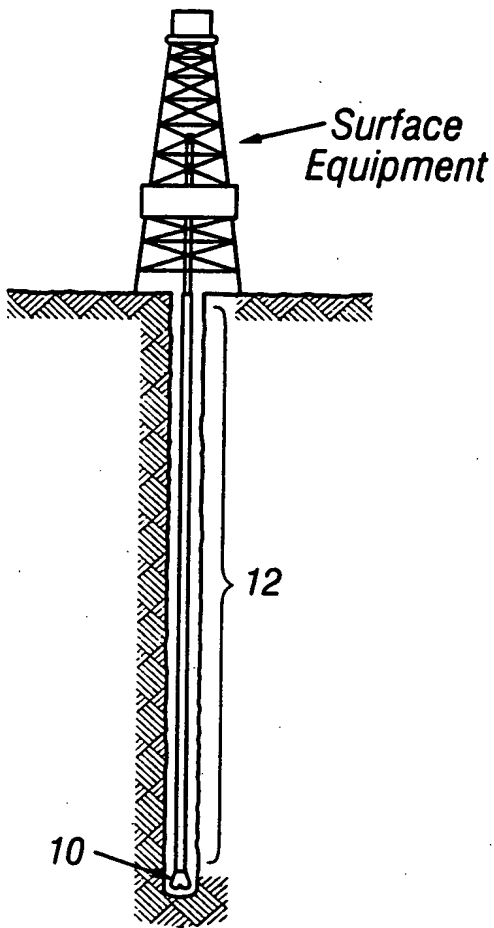


FIG. 10

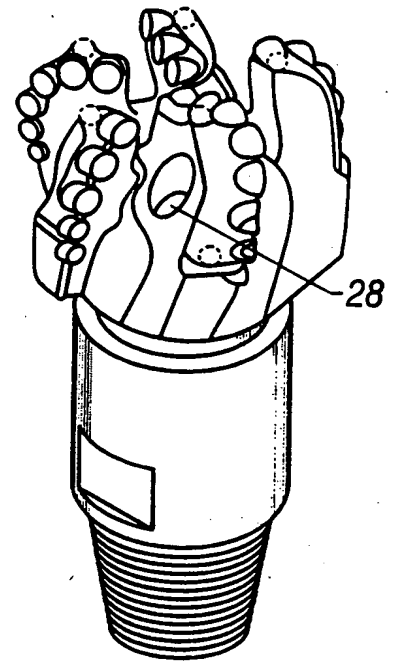


FIG. 11

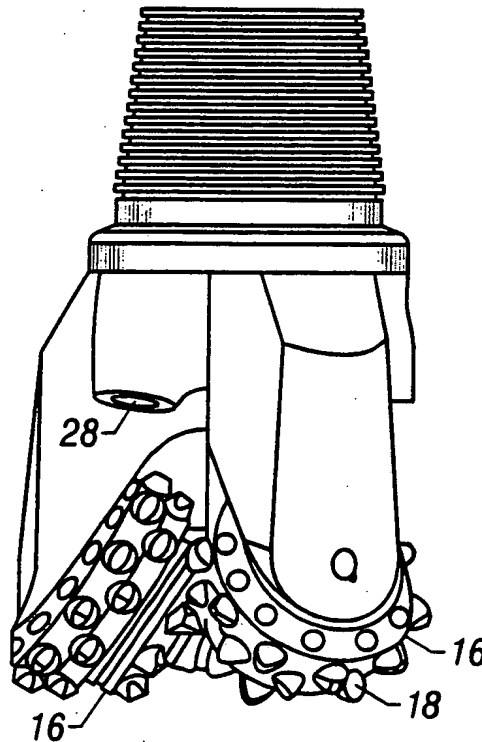


FIG. 12